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SEQUENCE LISTING

<110> Aventis Pasteur Limited

<120> Chlamydia antigens and corresponding DNA fragments and uses thereof

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<141> 1999-12-23

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	Gln Val Val Tyr Leu His Glu Ser Asp Gly Tyr Asn Gly Ala Ile Asn	
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	Asn Lys Ser Leu Glu Pro Lys Ile Thr Cys Tyr Pro Glu Gly Thr Ser	
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	Tyr Ile Phe Leu Asp Asp Val Arg Ile Ser Asn Val Lys His Asp Gln	
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	Glu Asp Ala Gly Val Phe Ile Asn Arg Ser Gly Asn Leu Phe Phe Met	
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	Gly Asn Arg Cys Asn Phe Thr Phe His Asn Leu Met Thr Glu Gly Phe	
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	Asn Phe Ser Tyr Leu Ala Phe Thr Ser Ala Pro Leu Leu Pro Gln Gly	
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	Gln Gly Ala Ile Tyr Ser Leu Gly Ser Val Met Ile Glu Asn Ser Glu	
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	Tyr Thr Pro Tyr Leu Leu Gly Ser Lys Ala Ser Arg Pro Ser Val Asn	
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	Leu Ser Gly Asn Arg Tyr Leu Val Phe Arg Asp Asn Val Ser Gln Val	
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	Tyr Gly Gly Ala Ile Ser Thr His Asn Leu Thr Leu Thr Thr Arg Gly	
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	cct tcg tgt ttt gaa aat aat cat gct tat cat gac gtg aat agt aat	787
	Pro Ser Cys Phe Glu Asn Asn His Ala Tyr His Asp Val Asn Ser Asn	
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 Val Phe Leu Thr Trp Asn Pro Glu Ile Thr Ser Thr Pro
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 Met Gly Ile Ser Leu
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cca gag ctt ttt tcc aac cta ggt tct gct tac tta gat tat atc ttt 163
 Pro Glu Leu Phe Ser Asn Leu Gly Ser Ala Tyr Leu Asp Tyr Ile Phe
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 Gln His Pro Pro Ala Tyr Val Trp Ser Val Phe Leu Leu Leu Leu Ala
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 Arg Leu Leu Pro Ile Phe Ala Val Ala Pro Phe Leu Gly Ala Lys Leu
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 Phe Pro Ser Pro Ile Lys Ile Gly Ile Ser Leu Ser Trp Leu Ala Ile
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atc ttt cca aaa gtc ttg gcg gat acg cag atc aca aat tac atg gat 355
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Leu Lys Ser Gly Ala Met Ser Phe Val Pro Glu Val Leu Ser Glu Glu
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Thr Ile Ser Ser Asp Leu Gly Lys Lys Gln Cys Thr Gln Gly Ile Ile
  50      55      60
Ser Ala Cys Cys Gly Leu Ala Met Leu Ile Val Leu Met Ser Val Tyr
  65      70      75      80
Tyr Arg Phe Gly Gly Val Ile Ala Ser Gly Ala Val Leu Leu Asn Leu
      85      90      95
Leu Leu Ile Trp Ala Ala Leu Gln Tyr Leu Asp Ala Pro Leu Thr Leu
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Ser Gly Leu Ala Gly Ile Val Leu Ala Met Gly Met Ala Val Asp Ala
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Asn Val Leu Val Phe Glu Arg Ile Arg Glu Glu Phe Leu Leu Ser Gln
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Ser Leu Lys Lys Ser Val Glu Lys Gly Tyr Thr Lys Ala Phe Gly Ala
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Ile Phe Asp Ser Asn Leu Thr Thr Val Leu Ala Ser Ala Leu Leu Phe
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Phe Leu Asp Thr Gly Pro Ile Lys Gly Phe Ala Leu Thr Leu Ile Leu
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Glu Ser Lys Leu Phe Gln Ser Arg Ala Cys Gln Ile Thr Leu Leu Val
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Leu Gly Ile Leu Leu Val Val Ala Gly Leu Ala Cys Met Phe Ile Phe
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His Ser Gln Leu Gly Ala Asn Ala Phe Trp Leu Ile Ile Pro Ala Ala
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Cys Thr Ser Glu Lys Leu Met Val Phe Gln Lys Trp Ala Gly Val Leu
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Glu Asp Gln Leu Asp Asp Gly Ile Leu Asn Asn Ser Asn Lys Ile Phe
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Ala Pro Tyr Lys Phe Leu Val Glu Gln Ile Ala Glu Glu Thr Cys Phe
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Val Tyr Ala Ile Val Thr Asn His Tyr Asp Pro His Thr Tyr Glu Leu
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Pro Pro Gln Gln Ile Lys Glu Leu Arg Gln Gly Asp Leu Trp Phe Arg
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Ile Gly Glu Ala Phe Gly Lys Asn Leu Leu Glu Lys Pro Tyr Met Gln
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Gln Val Asp Leu Ser Gln Asn Val Ser Leu Ile Gln Gly Lys Pro Cys
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Cys Asn Gln His Thr Thr Asn Tyr Asp Thr His Thr Trp Leu Ser Pro
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Lys Asn Leu Lys Val Gln Val Glu Thr Ile Val Thr Thr Leu Ser Lys
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Lys Ala Lys Gln Arg His Ile Leu Val Ser His Gly Ala Phe Gly Tyr
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40

Phe Cys Arg Asp Tyr Asn Phe Ser Gln His Thr Ile Glu Lys Ser Ser
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Glu Gln Tyr Lys Ile Ser Ser Val Ile Leu Leu Glu Tyr Ser Gly Arg
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50

Arg Ser Ser Ala Met Leu Ala Asp Arg Phe His Met His Thr Val Asn
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Asp Arg Asp Ile Thr Leu Phe Asn Ile Asp Asn Ser Ala Ser Gly Ala
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Val Thr Ala Thr Asn Val Thr Leu Gln Gly Asn Leu Gly Ala Lys Lys
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30 Gly Tyr Leu Gly Thr Trp Asn Leu Asp Pro Asn Ser Ser Gly Ser Lys
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Pro Arg Asp Asn His Phe Tyr Ile Asn Ser Ile Trp Gly Ala Gln Asn
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Ser Leu Val Thr Val Asn Gln Gly Ile Leu Gly Asn Met Leu Asn Asn
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Gly Ser Phe Leu Arg Lys Glu Val Ser Arg Asn Ser Asp Ser Phe Thr
 195 200 205

Tyr His Gly Arg Gly Tyr Thr Ala Ala Val Asp Ala Lys Pro Arg Gln
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50 Glu Phe Ile Leu Gly Ala Ala Phe Ser Gln Val Phe Gly His Ala Glu
 225 230 235 240

Ser Glu Tyr His Leu Asp Asn Tyr Lys His Lys Gly Ser Gly His Ser
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Thr Gln Ala Ser Leu Tyr Ala Gly Asn Ile Phe Tyr Phe Pro Ala Ile
 260 265 270

2363360

Arg Ser Arg Pro Ile Leu Phe Gln Gly Val Ala Thr Tyr Gly Tyr Met
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Gln His Asp Thr Thr Thr Tyr Tyr Pro Ser Ile Glu Glu Lys Asn Met
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Ala Asn Trp Asp Ser Ile Ala Trp Leu Phe Asp Leu Arg Phe Ser Val
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325 330 335

Thr Glu Ala Glu Tyr Thr Arg Ile Arg Gln Glu Lys Phe Thr Glu Leu
340 345 350

Asp Tyr Asp Pro Arg Ser Phe Ser Ala Cys Ser Tyr Gly Asn Leu Ala
355 360 365

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370 375 380

Ile Leu Tyr Asn Lys Val Ser Ala Ala Tyr Leu Pro Val Ile Leu Arg
385 390 395 400

Asn Asn Pro Lys Ala Thr Tyr Glu Val Leu Ser Thr Lys Glu Lys Gly
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Ser Ser Gln Ile Tyr Leu Gly Ser Tyr Trp Thr Leu Tyr Gly Thr Tyr
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Pro Glu Asp Ser Phe His Gly Asp Ser Gln Asn Ala Glu Arg Ser Tyr
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Asn Val Gln Ala Gly Asp Val Tyr Ser Leu Thr Gly Asp Val Ser Ile
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FOOT" 2000000

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Leu Gln Ala Arg Asn Gly Tyr Ser Ile Glu Phe Tyr Asp Pro Ile Thr
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 Ser Glu Ala Asp Gly Ser Thr Gln Leu Asn Ile Asn Gly Asp Pro Lys
 385 390 395 400
 Asn Lys Glu Tyr Thr Gly Thr Ile Leu Phe Ser Gly Glu Lys Ser Leu
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 10 Ala Asn Asp Pro Arg Asp Phe Lys Ser Thr Ile Pro Gln Asn Val Asn
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 Leu Ser Ala Gly Tyr Leu Val Ile Lys Glu Gly Ala Glu Val Thr Val
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 Ser Lys Phe Thr Gln Ser Pro Gly Ser His Leu Val Leu Asp Leu Gly
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 Ile Asp Ile Asp Ser Leu Ser Ser Ser Ser Thr Ala Ala Val Ile Lys
 485 490 495
 Ala Asn Thr Ala Asn Lys Gln Ile Ser Val Thr Asp Ser Ile Glu Leu
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 565 570 575
 40 Glu Phe Phe Trp Asp Lys Ile Asn Tyr Lys Pro Arg Pro Glu Lys Glu
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 Gly Asn Leu Val Pro Asn Ile Leu Trp Gly Asn Ala Val Asp Val Arg
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 Ser Leu Met Gln Val Gln Glu Thr His Ala Ser Ser Leu Gln Thr Asp
 610 615 620
 50 Arg Gly Leu Trp Ile Asp Gly Ile Gly Asn Phe Phe His Val Ser Ala
 625 630 635 640
 Ser Glu Asp Asn Ile Arg Tyr Arg His Asn Ser Gly Gly Tyr Val Leu
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195 200 205

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	Asp	Lys	Gly	Gly	Gly	Ile	Tyr	Ser	Lys	Glu	Lys	Asp	Ser	Thr	Leu	Asp	
	225					230					235					240	
	Ala	Asn	Thr	Gly	Val	Val	Thr	Phe	Lys	Ser	Asn	Thr	Ala	Lys	Thr	Gly	
					245					250					255		
10	Gly	Ala	Trp	Ser	Ser	Asp	Asp	Asn	Leu	Ala	Leu	Thr	Gly	Asn	Thr	Gln	
				260					265					270			
	Val	Leu	Phe	Gln	Glu	Asn	Lys	Thr	Thr	Gly	Ser	Ala	Ala	Gln	Ala	Asn	
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	Asn	Pro	Glu	Gly	Cys	Gly	Gly	Ala	Ile	Cys	Cys	Tyr	Leu	Ala	Thr	Ala	
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20	Thr	Asp	Lys	Thr	Gly	Leu	Ala	Ile	Ser	Gln	Asn	Gln	Glu	Met	Ser	Phe	
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	Cys	Thr	Leu	Asp	Gly	Asn	Thr	Thr	Leu	Thr	Phe	Asp	Gln	Asn	Thr	Ala	
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	Thr	Ala	Gly	Cys	Gly	Gly	Ala	Ile	Tyr	Thr	Glu	Thr	Glu	Asp	Phe	Ser	
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30	Leu	Lys	Gly	Ser	Thr	Gly	Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	
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	Thr	Asn	Leu	Leu	Phe	Ser	Gly	Asn	Lys	Ala	Thr	Gly	Pro	Ser	Asn	Ser	
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40	Ser	Ala	Asn	Gln	Glu	Gly	Cys	Gly	Gly	Ala	Ile	Leu	Ala	Phe	Ile	Asp	
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	Ser	Gly	Ser	Val	Ser	Asp	Lys	Thr	Gly	Leu	Ser	Ile	Ala	Asn	Asn	Gln	
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	Gly	Asn	Thr	Ala	Gly	Thr	Ser	Gly	Gly	Ala	Ile	Tyr	Thr	Glu	Thr	Glu	
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	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Leu	Tyr	Ser	Lys	Gly	Asn	Asn	Ser	Leu	
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	Ser	Asn	Ser	Ser	Ala	Asn	Gln	Glu	Gly	Cys	Gly	Gly	Ala	Ile	Leu	Ser	
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	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Ala	Gly	Ala	Leu	His	Thr	Lys	Gly	Asn	
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	Thr	Ser	Phe	Thr	Lys	Asn	Lys	Ala	Leu	Val	Phe	Ser	Gly	Asn	Ser	Ala	
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30	Thr	Ala	Thr	Ala	Thr	Thr	Thr	Thr	Asp	Gln	Glu	Gly	Cys	Gly	Gly	Ala	
			675					680					685				
	Ile	Leu	Cys	Asn	Ile	Ser	Glu	Ser	Asp	Ile	Ala	Thr	Lys	Ser	Leu	Thr	
		690					695					700					
	Leu	Thr	Glu	Asn	Glu	Ser	Leu	Ser	Phe	Ile	Asn	Asn	Thr	Ala	Lys	Arg	
	705					710					715					720	
40	Ser	Gly	Gly	Gly	Ile	Tyr	Ala	Pro	Lys	Cys	Val	Ile	Ser	Gly	Ser	Glu	
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	Arg	Ala	Thr	Glu	Gly	Thr	Ser	Thr	Pro	Asn	Ser	Ile	His	Leu	Gly	Ala	
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Val Ser Lys Asn Arg Gly Gly Ala Ile Tyr Val Gly Val Ser Leu Ser
195 200 205

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	Asn	Ala	Ile	Ala	Ile	Asn	Leu	Pro	Ser	Ile	Leu	Gln	Ser	Glu	Ala	Ser
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	545					550					555					560
10	Asn	Asp	Glu	Asn	Glu	Asn	Pro	Tyr	Asp	Ser	Leu	Asp	Leu	Ser	Glu	Pro
					565					570					575	
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	Leu	Tyr	Val	Asp	Trp	Thr	Pro	Val	Gly	Tyr	Arg	Pro	Asn	Pro	Glu	Arg
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	His	Gly	Glu	Phe	Ile	Ala	Asn	Thr	Leu	Trp	Gln	Ser	Ala	Tyr	Asn	Ala
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30	Leu	Leu	Gly	Ile	Arg	Ile	Leu	Pro	Pro	Gln	Asn	Leu	Lys	Glu	His	Asp
			675					680					685			
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	Arg	Glu	Gly	Arg	Lys	Gly	Phe	Arg	Asn	His	Thr	Thr	Gly	Tyr	Ala	Ala
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					805					810					815	

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	Thr	Leu	Thr	Leu	Ser	Asn	Phe	Ser	Tyr	Leu	Ala	Phe	Thr	Ser	Ala	Pro
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	145					150					155					160
10	Ser	Gly	Ala	Ala	Ile	Tyr	Thr	Pro	Tyr	Leu	Leu	Gly	Ser	Lys	Ala	Ser
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		210					215					220				
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	Val	Ile	Asn	Ala	Pro	Glu	Gly	Lys	Glu	Thr	Tyr	Glu	Gly	Thr	Ile	Ser
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40	Phe	Ser	Gly	Leu	Cys	Leu	Asp	Asp	His	Glu	Val	Cys	Ala	Glu	Asn	Leu
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	Thr	Ser	Thr	Ile	Leu	Gln	Asp	Val	Thr	Leu	Ala	Gly	Gly	Thr	Leu	Ser
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	Phe	Val	Pro	Val	Arg	Ile	Arg	Ala	Glu	Asp	Lys	Asp	Ala	Leu	Val	Ser
					405					410					415	

His Gly Ile Leu Tyr His Tyr Phe Val Thr Ile Ile Phe Trp Leu Val
145 150 155 160

Ile Phe Leu Pro Ala Ser Ser Ala Asn Ala Ile Leu Tyr Tyr Thr Gly
115 120 125

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